

## Methodology Statement for the 2009 National Projections

The 2009 National Projections supplement the 2008 National Projections, which were released on August 14, 2008. The 2009 National Projections provide results for differing assumptions of international migration.

Given the fluctuations in international migration over the past century and the changing economic climate since 2000, it is plausible that patterns of international migration could increase, decrease, or remain stable over the coming decades. The 2009 National Projections provide new projection series that modify the series released in 2008 by incorporating four alternative net international migration assumptions: (1) High Net International Migration, (2) Low Net International Migration, (3) Constant Net International Migration, and (4) Zero Net International Migration. Except where noted for international migration, all other methodology and assumptions, including those for mortality and fertility, are the same as those used in the 2008 National Projections, see

<http://www.census.gov/population/projections/files/methodstatement.pdf>.

The 2009 National Projections provide projections of the resident population of the United States and demographic components of change (births, deaths, and net international migration) through 2050 for each of the four new series. Population projections are available by age, sex, race and Hispanic origin for each year from July 1, 2000 to July 1, 2050. Data are presented in five-year and other selected age groups in the summary tables and are available by single year of age in downloadable files. Comparison tables provide a side-by-side comparison of the projected resident population and demographic components of change for each of the four new series and the 2008 series. Race is tabulated according to the standards mandated by the Office of Management and Budget, see [http://www.whitehouse.gov/omb/fedreg\\_1997standards](http://www.whitehouse.gov/omb/fedreg_1997standards). For each of the five racial categories (White, Black, American Indian and Alaska Native, Asian, and Native Hawaiian and Other Pacific Islander), we show the number of persons who would identify as one of these races alone and the number of persons who would identify as a race alone or in combination with other races.

For each series, the resident population of the United States is projected forward from the Census 2000 base population using the cohort-component method, see <http://www.census.gov/population/projections/about>. The components of change (births, deaths, and net international migration) are projected for each birth cohort (persons born in a given year). For each passing year, we advance the population one year of age. We then update the new age categories using survival rates and levels of net international migration projected for the passing year. A new birth cohort is added to form the population under one year of age by applying the age-specific fertility rates to the female population aged 15 to 49, and updating the new cohort for the effects of mortality and net international migration.

## **Net International Migration**

As noted above, four net international migration series were produced for the 2009 National Projections: (1) High Net International Migration, (2) Low Net International Migration, (3) Constant Net International Migration, and (4) Zero Net International Migration.

### *High and Low Net International Migration*

Estimates of net international migration used by the Population Estimates Program (PEP), see <http://www.census.gov/popest/estimates.html>, between 2003 and 2008 are lower than the projected values for the same period of time used in the 2008 National Projections. The projected trend in international migration used in the 2008 National Projections was based on time-series analysis of a 31-year historical trend in international migration. The PEP uses data from the American Community Survey and other sources to estimate international migration, see <http://www.census.gov/popest/methodology/2008-nat-meth.pdf>.

The observed divergence (see Figure 1) in net international migration used by the PEP from the trend in net international migration projected for the 2008 National Projections is the basis for developing both the High and Low Net International Migration series. In the High and Low series, we increase and reduce the projected net international migration from the 2008 series based on the ratio of the net international migration data produced by the PEP to the projected net international migration from the 2008 series for the years 2001 through 2008. The result is a ratio of 0.8586. Using this approach, the overall number of migrants projected to enter or leave the population is modified while maintaining the assumptions about the distributions of demographic characteristics (age, race, sex and Hispanic origin) and the projected trends in international migration used in the 2008 series.

To create the High Net International Migration series, the projected value of net international migration from the 2008 series is divided by the ratio noted above for each projection year for each age, sex, race and Hispanic origin cohort. To create the Low Net International Migration series, the projected value of net international migration from the 2008 series is multiplied by the ratio for each projection year for each age, sex, race and Hispanic origin cohort. Figure 2 depicts the change in overall migration relative to the 2008 series for the High and Low Net International Migration series.

### *Constant Net International Migration*

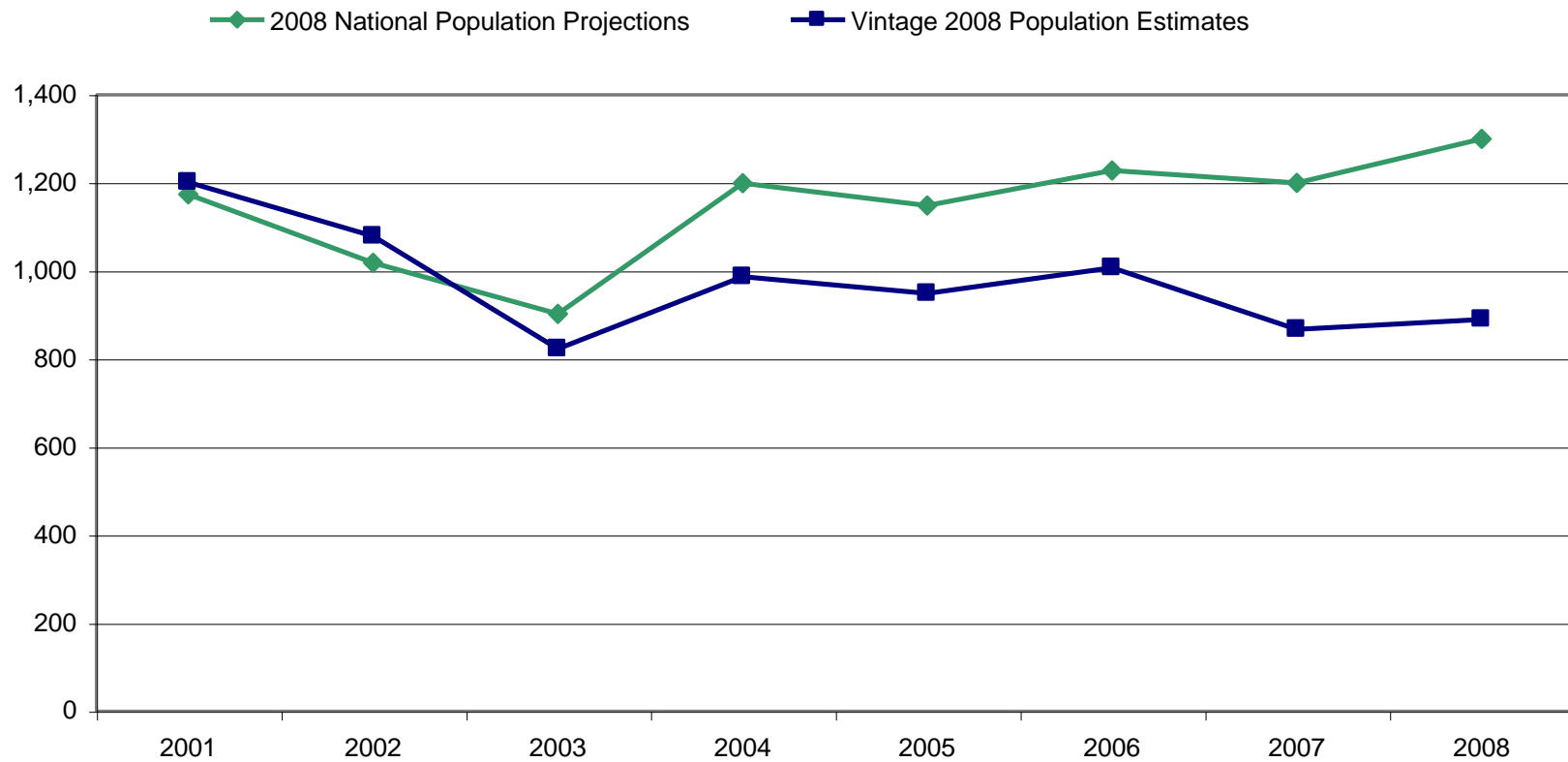
The Constant Net International Migration series illustrates the effect a level trend in international migration would have if maintained over the projection period. The level for the Constant series was developed by first reducing the projected level of net international migration from the 2008 series by the same ratio used to create the Low series. The reduced level of net international migration, 974,885, is held constant over the projection period. The distribution of net migration by age, sex, race, and Hispanic origin is the same as the 2008 National Projections distribution from 2000-2001. Figure 2 shows the level of net international migration assumed under this series.

### *Zero Net International Migration*

The Zero Net International Migration series is useful in analyzing the overall impact of international migration on the size and composition of the U.S. population. In this series, the number of immigrants and emigrants is held constant at a value of zero for the entire projection period, thus assuming a closed population and no movement of individuals into or out of the United States. This series is provided for analytical purposes and does not indicate that migration has dropped to zero or that it is expected to fall to zero.

**Figure 1. Number of Net International Migrants to the United States by Year: 2001 to 2008**

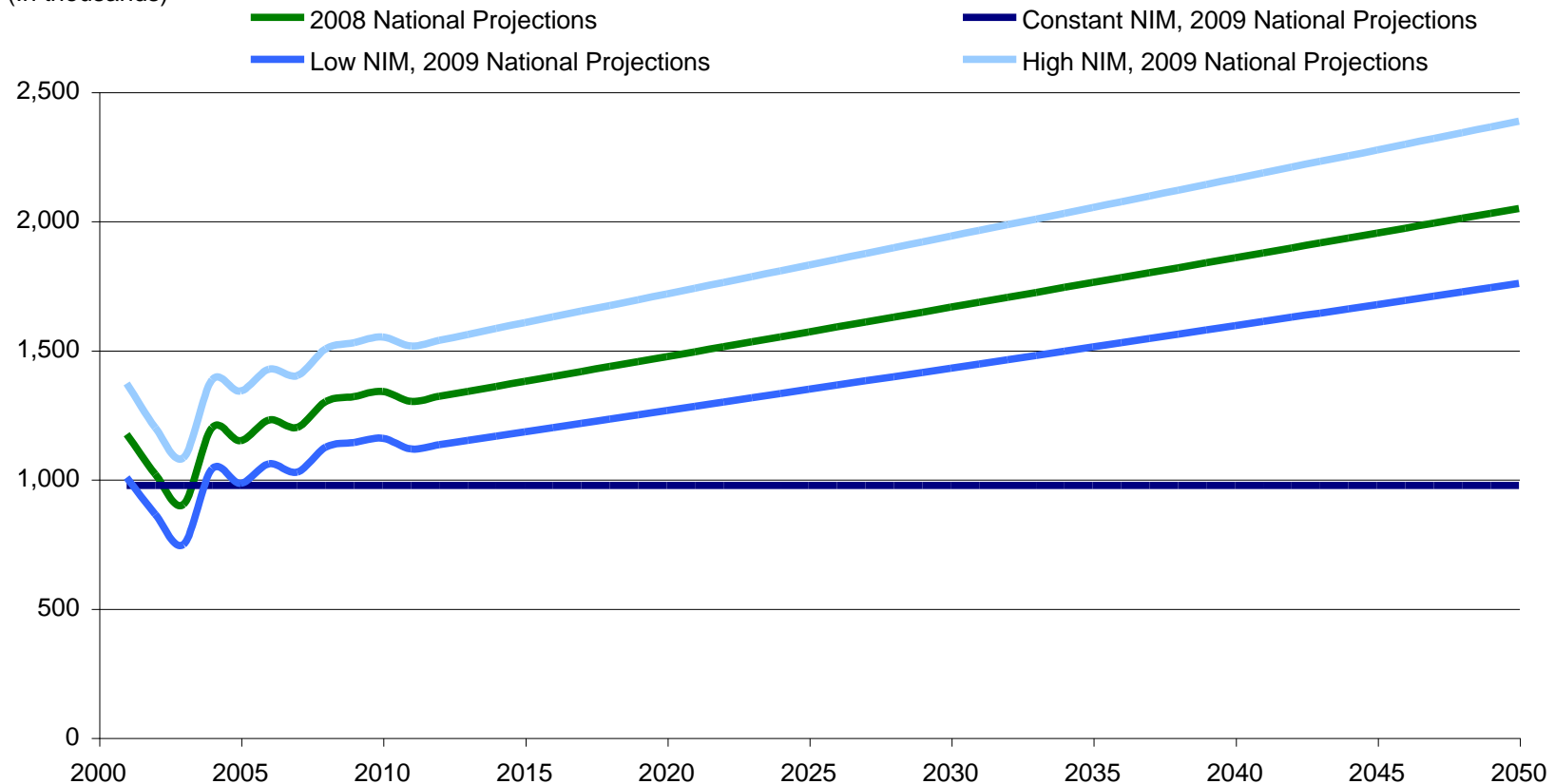
(In thousands)



Source: U.S. Census Bureau, 2009.

**Figure 2. Projected Net International Migration (NIM) for the United States: 2001 to 2050**

(In thousands)



NIM = Net International Migration

Source: U.S. Census Bureau, 2009.